Can the patient decide which modules to endorse? An open trial of tailored Internet treatment of anxiety disorders.

Andersson, G.; Estling, F.; Jakobsson, E.; Cuijpers, P.; Carlbring, P.

published in
Cognitive Behaviour Therapy
2011

DOI (link to publisher)
10.1080/16506073.2010.529457

document version
Publisher's PDF, also known as Version of record

Cognitive Behaviour Therapy
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713926011

Can the Patient Decide Which Modules to Endorse? An Open Trial of Tailored Internet Treatment of Anxiety Disorders

Gerhard Andersson[ab]; Fanny Estling[a]; Ebba Jakobsson[a]; Pim Cuijpers[c]; Per Carlbring[d]
[a] Department of Behavioural Sciences and Learning, Swedish Institute for Disability Research, Linköping University, Linköping, Sweden [b] Department of Clinical Neuroscience, Psychiatry Section, Karolinska Institutet, Stockholm, Sweden [c] Department of Clinical Psychology, Vrjie Universiteit, Amsterdam, the Netherlands [d] Department of Psychology, Umeå University, Umeå, Sweden

Online publication date: 19 February 2011

To cite this Article Andersson, Gerhard , Estling, Fanny , Jakobsson, Ebba , Cuijpers, Pim and Carlbring, Per(2011) 'Can the Patient Decide Which Modules to Endorse? An Open Trial of Tailored Internet Treatment of Anxiety Disorders', Cognitive Behaviour Therapy, 40: 1, 57 — 64
To link to this Article: DOI: 10.1080/16506073.2010.529457
URL: http://dx.doi.org/10.1080/16506073.2010.529457

Cognitive Behaviour Therapy Vol 40, No 1, pp. 57–64, 2011

Can the Patient Decide Which Modules to Endorse? An Open Trial of Tailored Internet Treatment of Anxiety Disorders

Gerhard Andersson[1,2], Fanny Estling[1], Ebba Jakobsson[1], Pim Cuijpers[3] and Per Carlbring[4]

[1]Department of Behavioural Sciences and Learning, Swedish Institute for Disability Research, Linköping University, Linköping, Sweden; [2]Department of Clinical Neuroscience, Psychiatry Section, Karolinska Institutet, Stockholm, Sweden; [3]Department of Clinical Psychology, Vrjie Universiteit, Amsterdam, the Netherlands; [4]Department of Psychology, Umeå University, Umeå, Sweden

Abstract. Internet-delivered cognitive behaviour therapy commonly consists of disorder-specific modules that are based on face-to-face manuals. A recent development in the field is to tailor the treatment according to patient profile, which has the potential to cover comorbid conditions in association with anxiety and mood disorders. However, it could be that the patients themselves are able to decide what modules to use. The authors tested this in an open pilot trial with 27 patients with mixed anxiety disorders. Modules were introduced with a brief description, and patients could choose which modules to use. The exception was the two first modules and the last, which involved psychoeducation and relapse prevention. The treatment period lasted for 10 weeks. Results showed large within-group effect sizes, with an average Cohen's *d* of 0.88. In a structured clinical interview, a majority (54%) had significantly improved 10 weeks after commencing treatment. Only one person dropped out. On the basis of results of this preliminary study, the authors suggest that the role of choice and tailoring should be further explored in controlled trials and that patient choice could be incorporated into Internet-delivered treatment packages. *Key words: anxiety; depression; patient choice; Internet-based treatment.*

Received 24 June, 2010; Accepted 14 September, 2010

Correspondence address: Gerhard Andersson, PhD, Department of Behavioural Sciences, Linköping University, SE-581 83 Linköping, Sweden. Tel: + 46 13 28 58 40. Fax: + 46 13 28 21 45. E-mail: Gerhard.Andersson@liu.se

Guided Internet-delivered cognitive behaviour therapy (CBT) has rapidly emerged as a novel evidence-based approach to the treatment of anxiety disorders (Andersson, Bergström, Carlbring, & Lindefors, 2005). This development was preceded by early computerized treatments (Marks, Shaw, & Parkin, 1998), and there is empirical evidence to suggest that computer-aided psychotherapy can be effective in the treatment of anxiety disorders (Cuijpers et al., 2009). However, Internet treatments have the advantage of being more accessible because they are less dependent on a specific computer (Andersson, 2009). There are now several Internet applications in areas such as mood disorders (Andersson & Cuijpers, 2009) and health conditions, among them irritable bowel syndrome (Ljótsson et al., 2010), headache (Devineni & Blanchard, 2005), and diabetes (Tate, Jackvony, & Wing, 2003). Within the field of anxiety disorders, there are numerous randomized controlled trials on various conditions such as panic disorder (Carlbring et al., 2006), social anxiety disorder (Furmark et al., 2009), generalized anxiety disorder (Titov et al., 2009), specific

DOI: 10.1080/16506073.2010.529457

phobia (Andersson et al., 2009), and posttraumatic stress disorder (Lange et al., 2003). However, most studies have been conducted with specific groups and specific treatments, and because comorbidity and overlapping symptoms are common (Barlow, 2002), it could be argued that some degree of tailoring may be needed for patients who do not fulfil specific diagnostic criteria or who have mixed problems (e.g. social anxiety and insomnia). We have, therefore, developed a new approach to guided Internet treatment in which we, with some restrictions, tailor the intervention according to the symptom profile of the patient following a psychiatric interview. This has been facilitated by having access to several self-help treatment protocols in addition to those specific for mood and anxiety disorders. For example, modules on insomnia (Ström, Pettersson, & Andersson, 2004) and stress management (Zetterqvist, Maanmies, Ström, & Andersson, 2003) are available. The restrictions mainly concern the necessity of a treatment rationale and the fact that patients cannot have too few or too many modules to work with for a restricted treatment period. In a recent controlled trial on anxiety disorders, in which we allocated treatment modules following an interview, we found that the tailored treatment was superior to an attention control group (online discussion group) on several outcome measures, with an average between-group Cohen's effect size (*d*) of 0.69 (Carlbring et al., in press).

However, even if we allocated treatment modules in accordance with patient priorities, they could not choose themselves. Because patient preferences may influence treatment outcome, we decided to conduct an open trial in which a brief description of each treatment module was presented, and then made it possible for participants to pick which modules to work with. To our knowledge, this has not been tested previously with regard to Internet treatment of anxiety disorders. On a theoretical level, the approach is influenced by control theory (Carver & Scheier, 1982) and the possibility that control over the treatment selection process may be beneficial. On the other hand, it may not be a suitable approach because patients may not be aware of the functional associations and hence may avoid modules that appear to demand hard work and exposure. The outcome of this pilot trial is, therefore, not obvious. However, some approaches to Internet treatment do not involve guidance (Christensen, Griffiths, Korten, Brittliffe, & Groves, 2004), and because unguided approaches tend to be less effective we decided to retain the guidance, which is usually in the form of brief feedback from a clinician on a weekly basis (Andersson et al., 2008). Therefore, the potential risks of choosing inappropriate modules is probably lessened when patients are monitored throughout the treatment and not left on their own.

The aim of this open pilot study was to test the effects of tailored guided Internet treatment of anxiety symptoms and comorbid conditions when patients are given the opportunity to choose what treatment ingredients to work with. We hypothesized that this treatment approach would lead to reductions on symptom measures, and if so, we would consider increased patient control over module selection in future trials.

Method

Participants and recruitment

A detailed description of the recruitment and selection procedures is given in Carlbring et al. (in press). This pilot study was conducted with the control group from the controlled trial. These individuals had to wait for 10 weeks, during which they were invited to participate in a closed monitored online discussion group (see Carlbring et al., in press, for details). Briefly, participants were recruited from an online database, where they had reported interest in taking part in research on various anxiety disorders. Once we started the trial, we sent out e-mails that the study was opened. We first screened participants using a computerized interview that comprised four inventories—the Clinical Outcomes in Routine Evaluation–Outcome Measure (CORE-OM), the self-rated Montgomery–Åsberg Depression Rating Scale (MADRS-S), the Beck Anxiety Inventory (BAI), and the Quality of Life Inventory (QOLI)—plus 10 additional questions regarding demographics and current and past treatment. We then called in eligible participants to complete the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Gibbon, Spitzer, & Williams, 1997). To be included in the study,

participants had to fulfil *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition, text revision; American Psychiatric Association, 2000) criteria for any specific anxiety disorder or anxiety disorder not otherwise specified. Again, for more details on this phase of the trial, see Carlbring et al. (in press). We repeated the SCID-I interview for the control group before the open trial but this time over the telephone. Demographic data for participants in this open pilot trial are presented in Table 1. In total, 27 participants were

Table 1. *Demographic description of the participants (N = 27)*

Variable	Value
Gender (*n*, %)	
Male	23 (85%)
Female	4 (15%)
Age (years)	
M ± *SD*	38.3 ± 10.3
Range	25–62
Marital status	
Married/living together	19 (70%)
Separated	4 (15%)
Single	3 (11%)
Other	1 (4%)
Highest educational level	
Nine-year compulsory school	2 (7%)
Secondary school (compl.)	5 (19%)
Vocational school (compl.)	3 (11%)
College/university (not compl.)	7 (26%)
College/university (compl.)	10 (37%)
Employment status	
Employed[a]	12 (44%)
Student	8 (30%)
Unemployed	3 (11%)
Retired	2 (7.5%)
Registered sick	2 (7.5%)
Medication[b]	
None	11 (41%)
Earlier	10 (37%)
Present	6 (22%)
Psychotherapy	
None	16 (59%)
Earlier	11 (41%)
Ongoing	0
SCID-I diagnosis	
Major depression	4 (15%)
Mild depression	1 (4%)
Dysthymia	5 (19%)
Panic disorder	3 (11%)
Panic disorder + agoraphobia	5 (19%)
Obsessive–compulsive disorder	0
Posttraumatic stress disorder	1 (4%)
Social phobia	10 (37%)
Generalized anxiety disorder	5 (19%)
Anxiety disorder NOS	6 (22%)
Any comorbid disorder	10 (37%)

Note. *SCID-I, Structured Clinical Interview for DSM-IV Axis I Disorders; NOS, not otherwise specified.*
[a]*Full-time, part-time.*
[b]*Anxiolytic and/or antidepressant; needed to be stabilized for 3 months.*

included. Of these, one (3.7%) failed to enter the trial and was thus excluded. In addition, two participants did not complete the full treatment but were included nonetheless because they provided posttreatment data and were included in accordance with the intention-to-treat principle. The protocol was approved by the regional ethics committee.

Measures

We used the CORE-OM (Barkham et al., 2001), the MADRS-S (Svanborg & Åsberg, 1994), the BAI (Beck, Epstein, Brown, & Steer, 1988), and the QOLI (Frisch, Cornell, Villanueva, & Retzlaff, 1992). Three of these established measures have been used in previous Internet trials and have robust psychometric properties for Internet delivery for various groups, including panic disorder (Austin, Carlbring, Richards, & Andersson, 2006), social phobia (Hedman et al., 2010), and depression (Holländare, Andersson, & Engström, in press). The exception is the CORE-OM, which was used in the previous controlled trial but has not been evaluated separately with regard to psychometric properties for online use. In addition to these questionnaire measures, we included an estimate of clinical global impression of improvement (CGI-I), rated using a 7-point scale (Guy, 1976) after a telephone interview by an interviewer who had had no earlier contact with the participants.

Therapists and treatment

Five clinical psychology master's of science students who had completed their clinical training and were in their last term served as therapists. In total, the average duration of therapist contact was 26.3 min ($SD = 7.4$) per patient per week. Student therapists were supervised in groups by an experienced clinical psychologist for a total duration of 6 hr.

Once the interviews had been held, all contact with participants was done over the Internet (Carlbring et al., in press). Similar to the original trial, 16 different modules were presented. The participants were then asked to pick 10 modules for a total duration of 10 weeks. Some rewording of modules was done to fit the purpose of self-selection. In addition, participants were given brief descriptions of the modules to facilitate choice. One participant chose to only have nine modules. There were some restrictions because modules for specific problems go together (e.g. two modules on social anxiety). The actual modules selected are presented in Table 2 along with the proportion completed. A module was considered completed if the participant sent in homework reports associated with the module. This included brief queries for the psychoeducational parts. Individual feedback was usually given within 24 hr of the participants sending their answers via e-mail. Of the 26 participants who created a treatment plan (e.g. selected modules), only nine (35%) managed to

Table 2. *Number of selected and completed treatment modules ($n = 26$)*

Module	No. selected modules	No. completed modules
Introduction	24	24 (100%)
Cognitive restructuring 1	25	25 (100%)
Cognitive restructuring 2	25	24 (96%)
Social anxiety 1	17	9 (53%)
Social anxiety 2	17	9 (53%)
Behavioural activation 1	13	11 (85%)
Behavioural activation 2	13	9 (69%)
Panic 1	13	10 (77%)
Panic 2	13	10 (77%)
Generalized anxiety 1	15	14 (93%)
Generalized anxiety 2	15	14 (93%)
Generalized anxiety 3	15	13 (87%)
Agoraphobia	7	3 (43%)
Relaxation (applied)	18	9 (50%)
Sleep management	7	4 (57%)

Table 3. *Mean scores (± SDs) at pretreatment and posttreatment*

Measure	Pretreatment	Posttreatment	*t*(25)	Cohen's *d* within
CORE-OM	1.46 (0.40)	0.95 (0.43)	7.12***	1.23
BAI	16.85 (8.04)	10.73 (6.72)	4.15***	0.83
MADRS-S	15.96 (6.48)	9.73 (6.65)	5.29**	0.95
QOLI	0.85 (1.64)	1.65 (1.48)	−2.71*	0.51

Note. *CORE-OM, Clinical Outcomes in Routine Evaluation–Outcome Measure; BAI, Beck Anxiety Inventory; MADRS-S, self-rated version of the Montgomery–Åsberg Depression Rating Scale; QOLI, Quality of Life Inventory.*
*$p < .05$. **$p < .01$. ***$p < .001$.

complete all modules in time. However, this does not necessarily mean that the other participants were inactive. Indeed, the average patient spent 4.9 hr/week ($SD = 2.85$) on the treatment. In addition, the introduction and the cognitive restructuring modules were completed by a large majority (92–100%). On average, participants completed 7.6 ($SD = 2.3$) of a mean of 9.96 preselected modules. Once a selected module was made accessible by the therapist, it was immediately made available for download in pdf format. Participants were advised to print out the texts to make it easier for note-taking and to have the material available when a computer was not accessible. They were prompted to spend approximately 1 week per module; if the therapist had not heard from the participant after a week, a reminder was sent by e-mail.

Design and analyses

The study had an open pre–post design. We used dependent samples *t* tests and within-group Cohen's *d* to present the outcome.

Results

Continuous outcome measures

Outcome data at pre- and posttreament are presented in Table 3. As seen, we found significant reductions of global anxiety/depression (CORE-OM), anxiety (BAI), and depressive symptoms (MADRS-S). Moreover, we found a statistically significant increase in quality of life (QOLI). The mean within-group effect size was $d = 0.88$. As a complementary way to present the data, individual changes are depicted in Figure 1. As seen, there is substantial variation in changes on the CORE-OM.

Clinical improvement

The CGI-I rating at posttreatment ($N = 26$) indicated the following results: very much improved, 7.7% ($n = 2$); much improved, 46.2% ($n = 12$); small improvement, 34.6% ($n = 9$); and unchanged, 11.5% ($n = 3$). No one deteriorated a little or much. Thus, a majority improved much, few were unchanged, and slightly more than one third had a small improvement. Considering the one dropout as a nonresponder (unchanged) alters these estimations slightly.

Discussion

In this open pilot trial, we tested whether modules in tailored Internet treatment for anxiety disorders could be selected by the

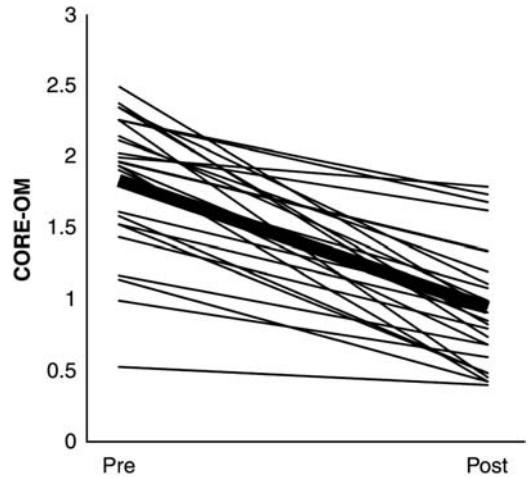

Figure 1. Individual changes from pre- to posttreatment on the Clinical Outcomes in Routine Evaluation–Outcome Measure (CORE-OM). Thin lines represent individual cases and the thick line the mean score.

patients themselves instead of being prescribed by a therapist. With a pre–post design, we found significant improvements on all self-report measures used, and a majority of participants also reported improvement in a clinical interview. We found no indications that the procedure of letting patients decide themselves had any negative impact on the results. On the other hand, the number of modules completed was not optimal but in line with previous studies on guided Internet-delivered CBT. There are some indications that brief weekly telephone contact may increase adherence in the treatment of anxiety (Carlbring et al., 2006, 2007), depression (Andersson & Cuijpers, 2009), and pathological gambling (Carlbring & Smit, 2008). However, on the other hand, in a controlled study on headache we did not find that telephone contact increased the effects of the Internet treatment (Andersson, Lundström, & Ström, 2003). There is substantial support for the role of therapist contact with regard to adherence (Christensen, Griffiths, Groves, & Korten, 2006), and this also appears to be the case when it comes to outcome as well (Spek et al., 2007). The results of this open trial can be compared with the controlled trial of therapist-prescribed tailored Internet treatment (Carlbring et al., 2010). In fact, the participants in this open trial composed the control group of that trial, which, of course, can be seen as a limitation because they had waited for treatment and had some minor improvements during that period before this trial began (for means, see Carlbring et al., in press). The mean within-group effect size for the treated group in the controlled trial in which we prescribed modules was $d = 1.15$, which appears to be somewhat higher than the average effect size in this study ($d = 0.88$). However, participants in the previous trial completed about the same number of modules ($M = 7.96$) as those in this trial ($M = 7.6$). We asked open qualitative questions as well (not reported), and 11 participants (42.3%) reported that the 10-week treatment period was too short. Interestingly, few told us that they found the modules difficult to read and follow, with one reporting that the text was difficult and another indicating that it sometimes was difficult. Overall, the message received from this trial is that giving patients the possibility to choose has little effect on outcome and that there may be other beneficial effects not measured in this trial, such as increased self-efficacy. Perhaps more open-ended qualitative approaches would be helpful to determine whether this is the case (Rogers, Oliver, Bower, Lovell, & Richards, 2004).

There are several limitations of this study. First, because this was a pilot trial, we did not have a control group. However, there were two pretreatment assessments controlling for repeated testing and spontaneous remission, but one cannot draw any causal conclusions regarding the relative effects of being able to choose or having modules prescribed. Second, as mentioned, this study was a follow-up of a control group in a previous trial. Third, we had a small sample and although the participants were heterogeneous with regard to diagnostic status, they were all within the range of anxiety-related problems and hence probably not as comorbid as would have been the case in a regular clinical settings. Although effectiveness trials of Internet treatment exist (Bergström et al., 2009), there is no clinically representative study on tailored Internet treatment. Fourth, although we had access to 16 treatment modules, much clinically relevant information was not possible to target with modules. For example, relationship problems and health problems could be targets in an expanded module selection.

The findings from this pilot study suggest several research issues. First, the procedure of describing treatment content and letting patients make informed decisions has implications for face-to-face therapies as well, because treatment rationale often does not detail session-by-session content and leaves little room for patients to decide what to include in the treatment. Delegating decision making regarding treatment ingredients may very well be common in clinical practice but has not, to our knowledge, been tested systematically in research. Second, research could be done on patient preferences for treatment modules and it would also be of clinical interest to let patients suggest recommendations for improvement of treatment modules and potentially also tailor the modules according to their individual characteristics. Indeed, researchers have suggested that self-help materials may systematically include and focus on so-called common factors in psychotherapy, such as therapist

responsiveness and alliance rupture repair (Richardson, Richards, & Barkham, 2010).

We conclude that self-selection of treatment modules may be an option in tailored Internet treatments but that further investigations are needed to establish how this should be incorporated in clinical practice and how well self-selected treatment compares with treatment prescribed by a clinician.

Acknowledgements

This study was funded by a grant from the Swedish Council for Working Life and Social Research. We would like to thank Linda Maurin, Charlotta Törngren, Emma Linna, Thomas Eriksson, Elisabeth Sparthan, and Jonas Almlöv for their help with the original trial as well as Ulrika Wennerström, Wadad Mahmud, Paola Törneaus and Lena Jonsson for their help with the interviews.

References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

Andersson, G. (2009). Using the Internet to provide cognitive behaviour therapy. *Behaviour Research and Therapy*, *47*, 175–180.

Andersson, G., Bergström, J., Buhrman, M., Carlbring, P., Holländare, F., Kaldo, V., … Waara, J. (2008). Development of a new approach to guided self-help via the Internet. The Swedish experience. *Journal of Technology in Human Services*, *26*, 161–181.

Andersson, G., Bergström, J., Carlbring, P., & Lindefors, N. (2005). The use of the Internet in the treatment of anxiety disorders. *Current Opinion in Psychiatry*, *18*, 73–77.

Andersson, G., & Cuijpers, P. (2009). Internet-based and other computerized psychological treatments for adult depression: A meta-analysis. *Cognitive Behaviour Therapy*, *38*, 196–205.

Andersson, G., Lundström, P., & Ström, L. (2003). Internet-based treatment of headache. Does telephone contact add anything? *Headache*, *43*, 353–361.

Andersson, G., Waara, J., Jonsson, U., Malmaeus, F., Carlbring, P., & Öst, L.-G. (2009). Internet-based self-help vs. one-session exposure in the treatment of spider phobia: A randomized controlled trial. *Cognitive Behaviour Therapy*, *38*, 114–120.

Austin, D. W., Carlbring, P., Richards, J. C., & Andersson, G. (2006). Internet administration of three commonly used questionnaires in panic research: Equivalence to paper administration in Australian and Swedish samples of people with panic disorder. *International Journal of Testing*, *6*, 25–39.

Barkham, M., Margison, F., Leach, C., Lucock, M., Mellor-Clark, J., Evans, C., … McGrath, G. (2001). Service profiling and outcomes benchmarking using the CORE-OM: Toward practice-based evidence in the psychological therapies. Clinical outcomes in routine evaluation-outcome measures. *Journal of Consulting and Clinical Psychology*, *69*, 184–196.

Barlow, D. H. (2002). *Anxiety and its disorders. The nature and treatment of anxiety and panic* (Vol. 2). New York: Guilford Press.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. (1988). An inventory for measuring clinical anxiety. Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*, 893–897.

Bergström, J., Andersson, G., Karlsson, A., Andreewitch, S., Rück, C., Carlbring, P., & Lindefors, N. (2009). An open study of the effectiveness of Internet treatment for panic disorder delivered in a psychiatric setting. *Nordic Journal of Psychiatry*, *63*, 44–50.

Carlbring, P., Bohman, S., Brunt, S., Buhrman, M., Westling, B. E., Ekselius, L., & Andersson, G. (2006). Remote treatment of panic disorder: A randomized trial of Internet-based cognitive behavioral therapy supplemented with telephone calls. *American Journal of Psychiatry*, *163*, 2119–2125.

Carlbring, P., Gunnarsdóttir, M., Hedensjö, L., Andersson, G., Ekselius, L., & Furmark, T. (2007). Treatment of social phobia: Randomized trial of Internet delivered cognitive behaviour therapy and telephone support. *British Journal of Psychiatry*, *190*, 123–128.

Carlbring, P., Maurin, L., Törngren, C., Linna, E., Eriksson, T., Sparthan, E., … Andersson, G. (in press). Individually tailored Internet-based treatment for anxiety disorders: A randomized controlled trial. *Behaviour Research and Therapy*.

Carlbring, P., & Smit, F. (2008). Randomized trial of Internet-delivered self-help with telephone support for pathological gamblers. *Journal of Consulting and Clinical Psychology*, *76*, 1090–1094.

Carver, C. S., & Scheier, M. F. (1982). Control theory: A useful conceptual framework for personality-social, clinical, and health psychology. *Psychological Bulletin*, *92*, 111–135.

Christensen, H., Griffiths, K., Groves, C., & Korten, A. (2006). Free range users and one hit wonders: Community users of an Internet-based cognitive behaviour therapy program. *Australian and New Zealand Journal of Psychiatry*, *40*, 59–62.

Christensen, H., Griffiths, K. M., Korten, A., Brittliffe, K., & Groves, C. (2004). A comparison of changes in anxiety and depression symptoms of spontaneous users and trial participants of a cognitive behavior therapy website. *Journal of Medical Internet Research*, *6*, e46.

Cuijpers, P., Marks, I., van Straten, A.-M., Cavanagh, K., Gega, L., & Andersson, G. (2009). Computer-aided psychotherapy for anxiety disorders: A meta-analytic review. *Cognitive Behaviour Therapy*, *38*, 66–82.

Devineni, T., & Blanchard, E. B. (2005). A randomized controlled trial of an Internet-based treatment for chronic headache. *Behaviour Research and Therapy*, *43*, 277–292.

First, M. B., Gibbon, M., Spitzer, R. L., & Williams, J. B. W. (1997). *Structured clinical interview for DSM-IV axis I disorders (SCID-I)*. Washington, DC: American Psychiatric Press.

Frisch, M. B., Cornell, J., Villanueva, M., & Retzlaff, P. J. (1992). Clinical validation of the Quality of Life Inventory: A measure of life satisfaction for use in treatment planning and outcome assessment. *Psychological Assessment*, *4*, 92–101.

Furmark, T., Carlbring, P., Hedman, E., Sonnenstein, A., Clevberger, P., Bohman, B., … Andersson, G. (2009). Guided and unguided self-help for social anxiety disorder: Randomised controlled trial. *British Journal of Psychiatry*, *195*, 440–447.

Guy, W. (1976). Clinical global impressions. In W. Guy (Ed.), *ECDEU assessment manual for psychopharmacology* (pp. 217–222). Rockville, MD: National Institute of Mental Health.

Hedman, E., Ljotsson, B., Rück, C., Furmark, T., Carlbring, P., Lindefors, N., & Andersson, G. (2010). Internet administration of self-report measures commonly used in research on social anxiety disorder: A psychometric evaluation. *Computers in Human Behavior*, *26*, 736–740.

Holländare, F., Andersson, G., & Engström, I. (in press). Comparison between BDI-II and MADRS-S administered on the Internet or on paper: Are the psychometric properties the same? *Journal of Medical Internet Research*.

Lange, A., Rietdijk, D., Hudcovicova, M., van den Ven, J.-P., Schrieken, B., & Emmelkamp, P. M. G. (2003). Interapy: A controlled randomized trial of the standardized treatment of posttraumatic stress through the Internet. *Journal of Consulting and Clinical Psychology*, *71*, 901–909.

Ljótsson, B., Falk, L., Wibron Vesterlund, A., Hedman, E., Lindfors, P.-J., Rück, C., … Andersson, G. (2010). Randomized controlled trial of Internet-delivered cognitive-behavioral treatment of irritable bowel syndrome. *Behaviour Research and Therapy*, *48*, 368–376.

Marks, I., Shaw, S., & Parkin, R. (1998). Computer-assisted treatments of mental health problems. *Clinical Psychology: Science and Practice*, *5*, 151–170.

Richardson, R., Richards, D. A., & Barkham, M. (2010). Self-help books for people with depression: The role of the therapeutic relationship. *Behavioural and Cognitive Psychotherapy*, *38*, 67–81.

Rogers, A., Oliver, D., Bower, P., Lovell, K., & Richards, D. (2004). People's understandings of a primary care-based mental health self-help clinic. *Patient Education and Counseling*, *53*, 41–46.

Spek, V., Cuijpers, P., Nyklícek, I., Riper, H., Keyzer, J., & Pop, V. (2007). Internet-based cognitive behaviour therapy for symptoms of depression and anxiety: A meta-analysis. *Psychological Medicine*, *37*, 319–328.

Ström, L., Pettersson, R., & Andersson, G. (2004). Internet-based treatment for insomnia: A controlled evaluation. *Journal of Consulting and Clinical Psychology*, *72*, 113–120.

Svanborg, P., & Åsberg, M. (1994). A new self-rating scale for depression and anxiety states based on the Comprehensive Psychopathological Rating Scale. *Acta Psychiatrica Scandinavica*, *89*, 21–28.

Tate, D. F., Jackvony, E. H., & Wing, R. R. (2003). Effects of Internet behavioral counseling on weight loss in adults at risk for type 2 diabetes: A randomized trial. *Journal of the American Medical Association*, *289*, 1833–1836.

Titov, N., Andrews, G., Robinson, E., Schwencke, G., Johnston, L., Solley, K., & Choi, I. (2009). Clinician-assisted Internet-based treatment is effective for generalized anxiety disorder: Randomized controlled trial. *Australian and New Zealand Journal of Psychiatry*, *43*, 905–912.

Zetterqvist, K., Maanmies, J., Ström, L., & Andersson, G. (2003). Randomized controlled trial of Internet-based stress management. *Cognitive Behaviour Therapy*, *3*, 151–160.